

PROMOTING INDUSTRIAL GROWTH AND  
DIVERSIFICATION IN MONTANA

A Report to the  
Environmental Quality  
Council

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by

John K. Faust

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## INTRODUCTION

Montana, throughout its history, has been faced with a "boom and bust" economy. This has been the result of the exploitation of non-renewable resources and a narrow economic base which consists primarily of agriculture, mining, forest products and railroading. These are exporting industries and thus are dependent on national or international markets for stability. It is for this reason that diversification of the economy has become an issue relevant to the Montana situation.

The concept of diversification basically entails the expansion of the economic base in such a manner as to reduce the sensitivity of the state's economy to fluctuations in national economic activity. In the Montana situation, it also entails the establishment of industry other than those based on the exploitation of non-renewable resources.

In order to diversify the state's economy, it is necessary to attract new industry or to induce existing industry to expand. Therefore, it is the purpose of this paper to examine those factors which influence the locational decisions of firms and the techniques to promote industrial activity employed by other states.

Before embarking on a discussion of each of the locational factors, a general observation must be made. The amount of influence or the degree of importance a single factor exhibits in the locational decision of a firm depends on the relative importance of the other factors. If we assume that it is always the goal of a firm to maximize profits and that they pursue this goal rationally, then it must follow that the attractiveness of a specific area in the location decision of a firm depends on its advantage in reducing costs or



increasing revenue relative to other locations. Since cost structures vary among the different firms, an area which holds an advantage in regard to one of the factors will not exert the same degree of influence on all firms.





## LOCATION FACTORS

There are six basic factors which must be accessible in an area to some extent in order for the establishment of industry to be feasible. These are a market, raw materials, labor, transportation, energy resources and capital. It has been contended that there is a distinction between these "locational prerequisites" and site selection factors; that a plant has no choice other than to recognize and accept the region that provides the "prerequisites" of operation, thus limiting locational choice to within the region.<sup>1</sup> This seems intuitively true. However, these "prerequisites" may also be site selection factors insofar as cost and revenue differentials exist within the region with respect to these factors.

## MARKET

Businesses or firms which produce or handle goods for final consumption generally tend to locate with distribution weighing heavily in their consideration. This means orientation toward consumer markets. Included in these activities are consumer services, trade in consumer goods and the final production stages of consumer goods.

The stages of production which are oriented toward the market characteristically experience an increase in weight and/or bulk; produce fragile or perishable goods; produce products of low value<sup>2</sup>; need close contact with customers; are interdependent with other market-oriented stages of production; or acquire maximum economies in production only when producing on a large scale which requires an area of sufficient market capacity to absorb the massive output.



In the past, the Montana economy generally has not been attractive for market oriented industries. When considering the market potential of an area the first approximation of an index is the income of the consumers residing there. During the seventies, Montana's per capita income was 14% below the national average.<sup>3</sup>

Montana encompasses an area of 147,138 square miles. In 1970, the population of Montana was approximately 694,000.<sup>4</sup> This is an average of 4.7 persons per square mile.<sup>5</sup> With such a sparse population any industry using Montana as its primary market would face high distribution costs.

This situation, however, seems destined to change. The recent demographic trend in the United States has been fast growth of small towns and rural areas. Population in the United States between 1970 and 1973 was 3.2 percent, but population growth in rural areas<sup>6</sup> varied from 9.2 percent to 7.1 percent.<sup>7</sup> Percent net increases in population for Montana and the nation from 1970 to 1976 were 8.4 percent and 5.6 percent respectively.<sup>8</sup>

This trend has been decribed as "a flight from pollution, crime, congestion, social alienation and other suspected effects of large-scale massing of people."<sup>9</sup> In other words, people are being attracted by the quality of life offered by small towns and rural areas. From a "growth" perspective this, of course, has positive implications. An increase in population not only means an expansion of market capacity but also an increase in the labor supply. (Labor will be discussed more thoroughly later.)

However, economic growth should not be accepted too haphazardly. Montana is abundant in natural amenities which are fundamental to the quality of life enjoyed by those who reside here. The primary economic goal in the U.S. is or



should be increasing the standard of living and quality of life. It is, therefore, important to protect the amenities which we enjoy.

Our lag in economic growth should be viewed positively since we have had the opportunity to view the growth and problems of other states. Preventive action should be taken to insure that Montana does not fall victim to the same problems.

#### TRANSPORTATION

The structure of transportation costs is one of the major determinants of a firm's decision to locate near its market or its source of raw materials. Transportation costs are basically a function of distance relative to the weight, bulk and value of the good.

Freight rates, in general, increase with the distance of the haul. However, the increase is usually less than proportional to the increase in distance. This is true because part of the total operation costs of freight transportation consist of fixed costs which represent necessary investment in capital (primarily in terminal facilities). Since these costs are "fixed" and do not increase with the length of the haul, they can be spread out over the distance. Thus the longer the haul the smaller the proportion of total costs which is represented by fixed costs. This means total costs, and therefore freight rates, do not rise in proportion with distance.

The extent to which this is true depends on the level of necessary investment in capital. For instance, railroads experience high terminal costs and low line haul costs which gives them an advantage over trucking, which experiences low terminal costs and high line costs, in the long haul. The converse is, of course, also true. Trucks will have the advantage in the short haul situation since their primary cost is fuel, which is connected with distance.



As previously mentioned transportation costs are also a function of the weight, bulk and value of the good. Transportation costs generally increase as weight and bulk increase. Thus the stages of production which involve weight loss or bulk reduction will tend to be oriented toward the raw materials source where the process may take place prior to shipment. The opposite situation is also true. Those production processes which involve weight and/or bulk increase will tend to be located near the market.

High value goods are more "transportable" than low value goods. This means that because of their high value, the cost of transporting the good relative to the value of the good is less significant than it would be for a low value good. It is, however, often recognized by transportation agencies that high value goods can bear transportation costs more easily and results in the assignment of a larger proportion of the overhead costs to high value goods.

Other factors which tend to increase transportation costs are the carrying of fragile, perishable, or dangerous goods which require any sort of special handling. Processes, such as canning, that reduce the perishability, fragility, etc., will be located at a point prior to shipment (this usually means near the raw material source).

The important thing to note about Montana is that, as previously mentioned, Montana is not a market area and that, geographically or demographically, it is distant from the major market areas. Thus, there is a strong disincentive for market oriented stages of production to locate here.

#### RAW MATERIALS

The primary stages of production tend to be oriented towards the raw materials source. This is because there is usually weight or bulk reduction in





these stages of production (as already discussed) or, in the case of the extraction or procurement stages of production, it is physically necessary to locate at the raw materials source. In the case of materials oriented industry the location options are extremely limited by the geographical locations of the raw material.

Montana is a raw materials area. As mentioned in the beginning of this report, Montana's economic base consists primarily of agriculture, mining, forest products and railroading. The most abundant resource in Montana is its timber. It was estimated that in 1973, before the industry began to decline, Montana produced 1,445,000,000 board feet of lumber taken from 15,983,000 acres of land.<sup>10</sup> However, it has been suggested that:

"Prospects for continued growth in the woods products industry in Montana could be limited by supply and by regional competition within the United States. A recent computer analysis of the location of the softwood plywood and lumber industries in the United States suggests that regional differences in the costs of labor, logging and transportation might cost Montana its past competitive advantage."<sup>11</sup>

Minerals have been an abundant resource in Montana. In 1975, petroleum, copper and coal accounted for 84 percent of all mineral production within the state. The total value of mineral production in Montana in 1975 was \$560,246,000. Coal reserves in Montana are accelerating in importance as the production of other minerals tapers off. Between 1974 and 1975 coal production increased 52 percent while copper and petroleum production declined 23 percent and 5 percent respectively. Other declines in mineral production include silver--23 percent; gold--36 percent; and natural gas--35 percent.<sup>12</sup>

With agriculture being a major component of the economic base it is no surprise that land has been one of the most important natural resources in



Montana. Of the 50 states, Montana ranks second in farm acreage.

However, agricultural usage of land in Montana has been on the decline. In 1964, the Census of Agriculture recorded 65,833,760 acres of farmland. Farm acreage was recorded in 1969 as consisting of 62,918,247 acres, a net loss of 2,915,513 acres. In a fairly recent estimate farm acreage was approximated to be 62,400,000 acres which shows a further decline of roughly 20,000 acres.<sup>13</sup>

Most of Montana's natural resources are non-renewable and the supplies of those which are not, such as timber, may be out-paced by production. The depletion of these resources threatens Montana's economic base and suggests the necessity for diversification. However, this goal should not be pursued blindly. Careful economic and social planning in regard to both existing industry and resources, and potential economic growth is necessary. More industry does not necessarily mean good stable economic growth.

#### LABOR

The extent to which labor is an important factor in the location decision of a firm depends on how labor-intensive the firm is. If the firm or industry is labor-intensive, then labor is a major input in the production process and thus a major component of the cost structure.

There are three basic factors which are important to labor-intensive industries. These are labor costs (wages), labor supply (availability and stability) and labor productivity.

When wage differentials exist, as they do between the different regions of the U.S., labor-intensive industries tend to be attracted toward those regions in which wages are low. Wage levels in rural areas are typically low and, therefore, factories located in these areas are usually labor intensive and draw



on pools of unskilled workers who can be trained quickly to perform routine functions. Among the most important industries which persist in rural areas are the food products, textiles, apparel, lumber and woods products.<sup>14</sup>

When considering labor supply, the important elements are availability and stability. As previously mentioned, labor intensive industries often tap large pools of unskilled workers. The availability of labor is closely connected to labor mobility. Unskilled laborers are generally the most mobile since they are rarely tied down by property holdings. Modern transportation has increased the mobility of labor by decreasing travel time and making traveling easier. The increased mobility reduces the importance of large concentrated pools of labor.

Labor stability basically involves the historical record of labor-management relations. Poor labor relations can and have forced factories to close or migrate, thus providing a strong disincentive for firms to locate in areas with such a history. Indicators of labor-management relations include the number of strikes and their duration; the attitude of employees, employers and unions in the final settlement of a problem; excessive absenteeism; labor turnover; tardiness and disrespect for rules and regulations.<sup>15</sup>

Labor productivity, although important to labor intensive industry, is difficult to measure. Productivity is influenced by several factors. One such determinant is the ratio of capital to labor. The technology and efficiency with which it is used are important. There are also qualitative aspects of labor which are important in labor productivity such as the degree of skill of the laborer, age, and physical and mental capabilities.

Labor may be important to non-labor intensive industry. This would be the case of production processes which are of a highly technical nature requiring specially skilled labor.



Table I shows the number of work stoppages, the number of workers involved, the duration of the stoppage and the percent estimated total working time for Montana and the U.S. for the period 1970-75. It is important to note that, except 1971 and 1974, the percent of estimated total working time for Montana is considerably lower than the U.S.

Table II shows the turnover rates for Montana and the U.S. during 1976. The situation here also appears to be favorable to Montana. The total separation and accession rates are considerably lower for Montana than the U.S. indicating a lower turnover rate.

Overall, it would appear that Montana's labor stability is above average. This may be an important factor in the considerations of any firm deciding whether or not to locate in Montana and is definitely in Montana's favor.

TABLE I

Work Stoppages 1970-1975

| <u>Number</u> | <u># of Workers<br/>Involved</u> | <u>Days Idle</u> | <u>Percent of estimated<br/>total working time (private nonfarm)</u> |
|---------------|----------------------------------|------------------|--|
| 1970          |                                  |                  |  |
| Montana, 18   | 6,300                            | 28,100           | .07  |
| U.S., 4,595   | 3,305,200                        | 66,413,000       | .44  |
| 1971          |                                  |                  |  |
| Montana, 25   | 14,000                           | 428,500          | 1.12   |
| U.S., 5,138   | 3,279,600                        | 47,589,100       | .32  |
| 1972          |                                  |                  |  |
| Montana, 28   | 2,600                            | 37,500           | .08  |
| U.S., 5,010   | 1,713,600                        | 27,006,400       | .17  |
| 1973          |                                  |                  |  |
| Montana, 18   | 4,900                            | 26,300           | .05  |
| U.S., 5,353   | 2,250,700                        | 27,848,400       | .16  |
| 1974          |                                  |                  |  |
| Montana, 23   | 13,100                           | 343,700          | .58  |
| U.S., 6,074   | 2,777,700                        | 47,990,900       | .24  |
| 1975          |                                  |                  |  |
| Montana, 30   | 5,600                            | 84,800           | .14  |
| U.S., 5,031   | 1,745,600                        | 51,237,000       | .16  |

Source: Handbook of Labor Statistics, U.S. Dept. of Labor, Bureau of Labor Statistics, 1977





TABLE II

|         | <u>Turnover Rates 1976</u> |              |              |                   |                |
|---------|----------------------------|--------------|--------------|-------------------|----------------|
|         | <u>Accession</u>           | <u>New</u>   |              | <u>Separation</u> |                |
|         | <u>Total</u>               | <u>Hires</u> | <u>Total</u> | <u>Quits</u>      | <u>Layoffs</u> |
| Montana | 3.29                       | 2.94         | 2.8          | 1.5               | .7             |
| U.S.    | 3.9                        | 2.6          | 3.8          | 1.7               | 1.3            |

Source: Handbook of Labor Statistics, U.S. Dept. of Labor, Bureau of Labor Statistics, 1977, and Montana Employment and Labor Force, Dept. of Labor and Industry, Vol. 10, Number 5, May 1980.

#### ENERGY RESOURCES

Industries which use large quantities of energy tend to locate near energy resources. A major portion of their costs consist of the cost of procuring energy. Transporting energy over a distance increases the cost. Differentials in the cost of energy, at the source, also exist. Energy intensive industry will often seek these cheap energy sources. The aluminum plant in Columbia Falls is a perfect example of an industry locating near a cheap energy source. The Southern Appalachians and the Northwest have traditionally been sources of cheap hydroelectric power.<sup>16</sup>

Fuel requirements may influence the orientation of production relative to the market or materials source:

"Processes with large fuel requirements always involve a high proportion of weight loss and are likely to be found near sources of fuel or other materials, since the weight of fuel does not enter into that of the resulting product. Most of the industries using large amounts of fuel are found at early stages of processing--metallurgy and the making of cement, glass, calcium carbide; and synthetic nitrates are examples."<sup>17</sup>



## CAPITAL

In order for a new firm to be established or an existing firm to expand, investment capital is necessary. This, of course, means that in order for any site to be feasible capital resources must be accessible.

In general capital is mobile and can be brought into an area from external sources. Large corporations often generate their own investment capital internally without the use of financial institutions. However, "capital gaps" may exist in a region. There may be areas of potential investment which are reasonable in regard to risk and profitability, but because of a "gap" in the structure of the existing capital market in the region, investment funds have not been available.

A recent study of capital markets in the New England states revealed that, although there was no overall shortage in capital funds, there were certain categories of potential real investment which were cut off from the existing sources of funds. For instance, one "gap" which was verified was the:

"...lack of capital for the small, profitable, viable company growing at too slow a rate to be of interest to the venture capitalist. A small company growing at a 10% rate, operating in a small market, simply did not present the opportunity for gain and liquidity necessary for the venturer to be willing to take the risk."<sup>18</sup>

Another category which was determined to be in need of capital was that of "start up businesses which need seed capital to take their idea or product from the breadboard to the prototype stage."<sup>19</sup> The lack of capital in this area was attributed to the "altered risk-to-reward ratio caused by the lack of a public new issue market, the inability of the venture capitalist to remain liquid, the availability of other less risky avenues of investment, and an increase in conservatism generally..."<sup>20</sup> Unfortunately, a systematic analysis of financial availability and need in Montana has not been conducted.



## SECONDARY FACTORS

It would not be proper to conclude this discussion of locational factors without mentioning secondary factors briefly. As the prospective sites are narrowed down through the decision process, these factors become more important. Included in this category of factors are physical environment i.e. topography, climate, water, etc., governmental policies and taxation (which will be discussed in the next section), the existing pool of research talent in the area, perception of the industrial potential of an area and personal considerations such as the natural and social amenities of an area. Perhaps one of the most important secondary factors is the perception of the business climate of an area which may be influenced by governmental policies and taxation.

Although most of the location factors discussed are not very susceptible to direct policy control, there is one facet of location decision which is. The quality of any decision depends on the quality of information on which it is based. It also depends on the ease with which information can be obtained. Thus it should be a matter of policy to make sure that the quantity and quality of information is at a premium level, not only to attract industry but also to protect against instability in the economy due to poor location decisions.



## NOTES

1. Nishioka, Hisao and Krumme, Gunter "Location Conditions, Factors and Decisions: An Evaluation of Selected Location Surveys", Land Economics, May 1973, p. 195-205.
2. The reason for market-orientation of industries characterized by an increase in weight or bulk, production of fragile and perishable goods, and production of goods of low value is connected with transportation and will be discussed further in that section.
3. Johnson, Maxine C., "Montana in the 80's: Economic Problems and Challenges", Montana Business Quarterly, Vol. 18, No. 1, Spring 1980, p. 6.
4. This figure is outdated. The preliminary population level for July 1979 from the U.S. Bureau of Census is 786,000. However, even at 786,000 that is only approximately 5.3 persons per square mile.
5. Toole, Kenneth Ross, Montana History, Center for Continuing Education, University of Montana, 1977, chapter 10, p. 5.
6. Areas defined as rural include southern Missouri, northern and western Arkansas, eastern Oklahoma, Upper Michigan, Wisconsin, Minnesota, north-western New Mexico, western Colorado, north-eastern Idaho, and western Montana.
7. Toole, op.cit. at 6.
8. Power, Thomas, The Economic Value of the Quality of Life, Westview Press, Boulder, Colorado, 1980, p. 55.
9. Toole, op.cit. at 7.
10. Bigart, Robert, Montana: An Assessment for the Future, University of Montana Publications in History, 1978, p. 6.
11. Bigart, op.cit. at 8.
12. Bigart, op.cit. at 8.
13. Bigart, op.cit. at 16.
14. Miller, W.E., Manufacturing, The Pennsylvania State University Press, 1977.
15. Hoover, E.H. The Location of Economic Activity; McGraw-Hill Book Company, Inc., 1948, p. 32.
16. Miller, op.cit.





17. Hoover, op.cit. at 32.

18. New England Regional Commission, New England Business: Verification of Capital Gaps in New England, September 30, 1976, p. 9.

19. New England Regional Commission, op.cit. at 10.

20. New England Regional Commission, op.cit. at 10.



## THE EFFECTS OF TAXATION, TAX CONCESSIONS, AND REGULATION ON INDUSTRY LOCATION

### TAXES AND TAX CONCESSIONS

Tax incentives have been the recent trend in state economic policies to promote industrial development. Legislation allowing selected localities to reduce or grant exemptions to businesses on their property taxes for up to 20 years has been passed by twelve states since 1973. Tax credits on state corporate income taxes have been instituted in ten states over the same period of time. Overall, forty states presently offer some type of tax relief as an incentive to attract new business or induce existing industry to expand.<sup>1</sup>

When considering the question of the effectiveness of tax concessions or any type of inducement it is pertinent to consider the nature of the location decision itself. It has been suggested that the decision process consists of two stages; the selection of a general area which meets the minimum requirements of the firm and the selection of a specific site within the general area. In a fairly recent article,<sup>2</sup> one author argues that it is a three stage process consisting of (1) the decision as to the locational characteristics of the market at which the products will be directed; (2) determination of the areas from which all necessary interactions with the market may be conducted on a competitive basis; and (3) selection of the specific site.

Regardless of whether the decision process consists of two or three stages, the point is that the effectiveness of an inducement may depend on the stage of the decision at which it is aimed. In the case of tax concessions, it is more likely that they will be most effective when designed to influence the final site selection, i.e. when provided at the local level. At the state level they tend



to be outweighed by the more vital factors such as markets, raw materials, transportation, etc.

A characteristic which is important to the success of a tax concession in attracting industry is its distinctiveness. The function of a tax incentive is to create a differential which favors a specific region. If used too widely, the effect can be reversed to where regions not providing tax concessions are the exception and, therefore, at a disadvantage.

This is, in fact, what has been occurring. Competition between states and localities is extreme. It is too extreme to produce desirable results and has been the object of much concern. The cost of providing tax concessions appears to exceed the benefits (the benefits, of course, depend primarily on the effectiveness of the incentives).

The effectiveness of tax incentives appears to be marginal at best. Many studies and surveys have been done on the importance of taxes as a consideration in locating a new plant or expanding an existing one. Although most of the surveys have been criticized regarding the techniques employed, the results, with few exceptions, have been consistent. The conclusions drawn have been that the influence of taxes on industrial location decisions is not very significant. This, obviously, implies that tax concessions will not have a significant impact.

The Texas Engineering Experiment Station of Texas A and M conducted a survey in 1954 by sending questionnaires to 850 Texas manufacturers, with 350 usable responses. Of these 11 percent indicated migration from other states, 18 percent were branch plants and 70 percent were new businesses. The questionnaire provided 16 potential considerations in their location decisions of which they were to choose the five most important.



The three most common factors were markets, labor, and raw materials. Texas ranked 14th with only 1.5 percent considering them to be of primary importance and only 15 percent of all firms including them among the five most important considerations.<sup>3</sup>

A more recent survey conducted by the U.S. Department of Commerce in 1972 covered 2,900 companies in "high-growth" industries throughout the nation. Seventy-eight (78) percent considered tax incentives to be relevant to locational decisions. However, only 8 percent listed them as "critical".<sup>4</sup>

In 1969 North Dakota enacted a new industry tax exemption program. The program stipulates that a qualifying new industry may receive an exemption from property and/or state income tax for up to 5 years. Overall, it appears that the program has had very little impact on location decisions of firms. In a study conducted by the State Tax Commissioner's office to determine the effectiveness of the exemption only 10 of 125 firms surveyed indicated the exemption as being a major factor in the decision to locate in North Dakota.

The study also indicated:

"The exemption was especially ineffective in inducing large multi-state firms located outside the region to come to North Dakota.

Only six large manufacturing firms (revenues in excess of \$100 million annually) based outside the region have received new tax exemptions and have located in the state. In five of these instances, the property tax exemption appears to have played either an insignificant role or no role in the location decision."<sup>5</sup>

In regard to attracting industry located in neighboring states the results were a little more positive. Twenty (20) of the firms surveyed were investor-owned firms based in neighboring states. Four of the firms were large regional





cooperatives. Of these 24 firms, five indicated that their decision to locate in North Dakota was significantly influenced by the property tax exemption.

However, it may be that the decisions were influenced more by the general tax climate, especially relative to Minnesota where the tax situation is considerably less favorable than North Dakota. Byron Dorgan, the State Tax Commissioner, states that:

"In fact, the savings because of the exemption would be minimal compared to the cumulative total annual tax savings over a 15 year period for a firm locating in North Dakota."<sup>6</sup>

Why are taxes so insignificant in location decisions? One way to approach this question is to compare taxes to value added (the "actual contribution of a specific firm to the final market value of a good"<sup>7</sup>) and to sales.

It has been consistently estimated that state and local taxes represent 1/2 to 3 percent of value added and 2 to 5 percent of sales. A Michigan study conducted in 1958 showed state taxes to constitute about .5 percent and local taxes about 1.5 percent of value added.<sup>8</sup> A study by the Pennsylvania Economy League in 1953 showed a state-local tax differential between the highest tax state and the lowest of 3 percent. A 1963 study of five western states found that taxes as a percentage of value added ranged from .93 percent in the food industry to 2.73 percent in fabricated metals.<sup>9</sup> A recent study done by the Federal Reserve Bank of Boston which estimated how much of its income the average U.S. business paid to state and local governments found that .9 percent went to corporate income taxes, 1.9 percent to property taxes, and .8 percent to "other business taxes."<sup>10</sup> Corporate and unincorporated business income averages about 1/8 of value added which means that the average ratio of state and local taxes to value added is about .5 percent.



Although taxes seem to represent a very small proportion of total costs it must be remembered that a small percentage can represent a significant amount of money. However, the significance of tax incentives is reduced even further by the fact that the amount deducted from state taxes, as a credit, is an addition to the firm's income and, therefore, subject to the 48 percent federal corporate income tax. This cuts the savings almost in half.

High taxes are not necessarily viewed negatively by business. As mentioned earlier, community services are often a factor in the final location decision. The availability of public service may be significant in reducing the costs of a firm relative to another location where the firm may have to provide the services itself. High taxes, in so far as they represent the provision of services, may indirectly produce an incentive for industry to locate in a specific region.

It has been suggested, however, that the conclusion that "high taxes do not drive out business" may not be accurate. That "insofar as tax revenues are not used to finance the production of public goods and services (exhaustive expenditures) but instead finance transfer payments, there is no flow of benefits to resident firms and employed or employable individuals..."<sup>11</sup> A regression analysis (a means of statistical correlation) was done which showed transfer payments to be negatively and significantly correlated with growth in personal incomes.

It has also been suggested that:

"The businessman's interpretation of high taxes as an expression of the community's hostility could be more significant to location decision than the dollar magnitudes suggest. Adequate cost and tax information often are not available at the time a location decision is made; therefore, the belief that taxes are relatively high may inflate their importance in the locational decision."<sup>12</sup>



When considering the impact of state and local taxes on industry location, it is crucial to examine the question of whether or not existing tax differentials are subordinate to other cost differentials, i.e. whether or not differences in other cost factors among regions are greater than regional differences in taxes. W.V. Williams attempted to measure the impact of state and local taxes based on this principle. Although the study is particular to Minnesota, its implications are much more far reaching.

The study treated tax liability as "the marginal factor" by making "interstate comparisons of costs in average establishments in specific manufacturing industries before and after inclusion of state and local taxes."<sup>13</sup> Minnesota was ranked relative to all of the states for which information was available with the rank of 1 being the lowest cost state.

Table 1 shows Minnesota's rank, by type of industry, among comparison states according to cost per dollar of shipments before and after taxes. The column farthest to the right shows the net change in rank due to taxes. Improvements in Minnesota's situation are represented by positive numbers while deterioration is represented by negative numbers.

As can be seen the only improvements were in the two digit SIC industry groups of rubber products and chemicals and products. Ten of the four digit industries groups displayed a deterioration.

Since Minnesota is a high tax state, it would be expected that taxes would create a deterioration of Minnesota's situation. However, the changes in cost position are relatively minor with only two industry groups changing rank by more than one position.



TABLE 1

| SIC No.                       | Industry Title                  | Number of States Ranked | Minnesota's Rank Excluding Taxes | Minnesota's Rank Including Taxes | Net Change in Rank Due to Taxes |
|-------------------------------|---------------------------------|-------------------------|----------------------------------|----------------------------------|---------------------------------|
| <i>Two-Digit Industries*</i>  |                                 |                         |                                  |                                  |                                 |
| 24                            | Lumber and Wood Products        | 23                      | 1                                | 1                                | 0                               |
| 32                            | Stone, Clay, and Glass Products | 27                      | 1                                | 1                                | 0                               |
| 35                            | Machinery, Except Electrical    | 30                      | 1                                | 1                                | 0                               |
| 26                            | Pulp, Paper, and Products       | 30                      | 2                                | 2                                | 0                               |
| 29                            | Petroleum and Coal Products     | 18                      | 3                                | 3                                | 0                               |
| 34                            | Fabricated Metal Products       | 33                      | 4                                | 4                                | 0                               |
| 37                            | Transportation Equipment        | 27                      | 4                                | 4                                | 0                               |
| 27                            | Printing and Publishing         | 17                      | 11                               | 11                               | 0                               |
| 30                            | Rubber Products                 | 15                      | 12                               | 11                               | 1                               |
| 28                            | Chemicals and Products          | 31                      | 25                               | 24                               | 1                               |
| 33                            | Primary Metal Industries        | 28                      | 25                               | 25                               | 0                               |
| 20                            | Food and Kindred Products       | 40                      | 36                               | 36                               | 0                               |
| <i>Four-Digit Industries*</i> |                                 |                         |                                  |                                  |                                 |
| 2082                          | Malt Liquors                    | 14                      | 1                                | 1                                | 0                               |
| 2392                          | House Furnishings               | 20                      | 1                                | 1                                | 0                               |
| 3451                          | Screw Machine Products          | 13                      | 1                                | 1                                | 0                               |
| 2431                          | Millwork Plants                 | 27                      | 2                                | 2                                | 0                               |
| 2491                          | Wood Preserving                 | 20                      | 2                                | 2                                | 0                               |
| 3555                          | Printing Machinery              | 11                      | 2                                | 2                                | 0                               |
| 3732                          | Boat Building                   | 14                      | 2                                | 2                                | 0                               |
| 2094                          | Grease and Tallow               | 20                      | 3                                | 3                                | 0                               |
| 2341                          | Underwear (Women's, etc.)       | 13                      | 3                                | 3                                | 0                               |
| 2433                          | Prefabricated Buildings         | 9                       | 4                                | 4                                | 0                               |
| 3141                          | Shoes                           | 10                      | 4                                | 4                                | 0                               |
| 3321                          | Gray Iron Foundries             | 24                      | 4                                | 4                                | 0                               |
| 3443                          | Fabricated Plate Shops          | 31                      | 4                                | 6                                | -2                              |
| 3621                          | Motors and Generators           | 12                      | 5                                | 5                                | 0                               |
| 3949                          | Sporting Goods                  | 21                      | 5                                | 6                                | -1                              |
| 3537                          | Trucks and Tractors             | 13                      | 6                                | 6                                | 0                               |
| 2253                          | Knit Outerwear                  | 10                      | 7                                | 7                                | 0                               |
| 3441                          | Fabricated Structural Steel     | 38                      | 7                                | 8                                | -1                              |
| 3271                          | Concrete Brick and Block        | 30                      | 9                                | 9                                | 0                               |
| 3941                          | Games and Toys                  | 11                      | 9                                | 9                                | 0                               |
| 2071                          | Candy, etc.                     | 21                      | 10                               | 10                               | 0                               |
| 3713                          | Truck and Bus Bodies            | 17                      | 10                               | 11                               | -1                              |
| 3452                          | Bolts, Nuts, etc.               | 13                      | 11                               | 11                               | 0                               |
| 3541                          | Machine Tools, Cutting          | 14                      | 11                               | 11                               | 0                               |
| 2834                          | Drugs                           | 18                      | 12                               | 12                               | 0                               |
| 3361                          | Non-ferrous Foundries           | 16                      | 12                               | 12                               | 0                               |
| 2041                          | Grain Mill Products             | 20                      | 14                               | 15                               | -1                              |
| 2732                          | Book Printing                   | 19                      | 17                               | 17                               | 0                               |
| 2011                          | Meat Packing                    | 39                      | 19                               | 20                               | -1                              |
| 2515                          | Mattresses and Springs          | 22                      | 19                               | 19                               | 0                               |
| 3551                          | Food Products Machinery         | 20                      | 19                               | 19                               | 0                               |
| 2042                          | Prepared Animal Feeds           | 34                      | 25                               | 25                               | 0                               |
| 2511                          | Wood Furniture                  | 35                      | 25                               | 25                               | 0                               |
| 2512                          | Upholstered Furniture           | 28                      | 28                               | 28                               | 0                               |
| 2752                          | Lithography                     | 30                      | 28                               | 29                               | -1                              |
| 3444                          | Sheet Metal Work                | 39                      | 29                               | 30                               | -1                              |
| 2051                          | Bakery Products                 | 47                      | 30                               | 33                               | -3                              |
| 2751                          | Commercial Printing             | 43                      | 41                               | 43                               | -2                              |

\*The industries are arranged according to Minnesota's rank before taxes.





TABLE II

| SIC No.                       | Industry Title                  | Number of States Ranked | Minnesota's Rank if Taxes Included | Minnesota's Rank if Taxes Eliminated in Minnesota Only | Net Change in Rank Due to Tax Exemption | % Tax Reduction Required to Improve Rank |
|-------------------------------|---------------------------------|-------------------------|------------------------------------|--|---|--|
| <i>Two-Digit Industries*</i>  |                                 |                         |                                    |  |   |  |
| 24                            | Lumber and Wood Products        | 23                      | 1                                  | 1  | 0                                       | —  |
| 32                            | Stone, Clay, and Glass Products | 27                      | 1                                  | 1  | 0                                       | —  |
| 35                            | Machinery, Except Electrical    | 30                      | 1                                  | 1  | 0                                       | —  |
| 26                            | Pulp, Paper, and Products       | 30                      | 2                                  | 2  | 0                                       | 299                                      |
| 29                            | Petroleum and Coal Products     | 18                      | 3                                  | 3  | 0                                       | 564                                      |
| 34                            | Fabricated Metal Products       | 33                      | 4                                  | 4  | 0                                       | 155                                      |
| 37                            | Transportation Equipment        | 27                      | 4                                  | 4  | 0                                       | 136                                      |
| 27                            | Printing and Publishing         | 17                      | 11                                 | 6  | 5                                       | 21                                       |
| 30                            | Rubber Products                 | 15                      | 11                                 | 11   | 0                                       | 214                                      |
| 28                            | Chemicals and Products          | 31                      | 24                                 | 23   | 1                                       | 70                                       |
| 33                            | Primary Metal Industries        | 28                      | 25                                 | 25   | 0                                       | 133                                      |
| 20                            | Food and Kindred Products       | 40                      | 36                                 | 36   | 0                                       | 136                                      |
| <i>Four-Digit Industries*</i> |                                 |                         |                                    |  |   |  |
| 2082                          | Malt Liquors                    | 14                      | 1                                  | 1  | 0                                       | —  |
| 2392                          | House Furnishings               | 20                      | 1                                  | 1  | 0                                       | —  |
| 3451                          | Screw Machine Products          | 13                      | 1                                  | 1  | 0                                       | —  |
| 2431                          | Millwork Plants                 | 27                      | 2                                  | 2  | 0                                       | 1,285                                    |
| 2491                          | Wood Preserving                 | 20                      | 2                                  | 1  | 1                                       | 46                                       |
| 3555                          | Printing Machinery              | 11                      | 2                                  | 2  | 0                                       | 195                                      |
| 3732                          | Boat Building                   | 14                      | 2                                  | 2  | 0                                       | 112                                      |
| 2094                          | Grease and Tallow               | 20                      | 3                                  | 3  | 0                                       | 333                                      |
| 2341                          | Underwear (Women's, etc.)       | 13                      | 3                                  | 3  | 0                                       | 1,253                                    |
| 2433                          | Prefabricated Wood Buildings    | 9                       | 4                                  | 2  | 2                                       | 62                                       |
| 3141                          | Shoes                           | 10                      | 4                                  | 4  | 0                                       | 842                                      |
| 3321                          | Gray Iron Foundries             | 24                      | 4                                  | 4  | 0                                       | 167                                      |
| 3621                          | Motors and Generators           | 12                      | 5                                  | 4  | 1                                       | 69                                       |
| 3443                          | Fabricated Plate Shops          | 31                      | 6                                  | 3  | 3                                       | 39                                       |
| 3537                          | Trucks and Tractors             | 13                      | 6                                  | 6  | 0                                       | 243                                      |
| 3949                          | Sporting Goods                  | 21                      | 6                                  | 5  | 1                                       | 33                                       |
| 2253                          | Knit Outerwear                  | 10                      | 7                                  | 6  | 1                                       | 30                                       |
| 3441                          | Fabricated Structural Steel     | 38                      | 8                                  | 7  | 1                                       | 14                                       |
| 3271                          | Concrete Brick and Block        | 30                      | 9                                  | 9  | 0                                       | 129                                      |
| 3941                          | Games and Toys                  | 11                      | 9                                  | 9  | 0                                       | 155                                      |
| 2071                          | Candy, etc.                     | 21                      | 10                                 | 10   | 0                                       | 155                                      |
| 3541                          | Machine Tools                   | 14                      | 11                                 | 11   | 0                                       | 130                                      |
| 3452                          | Bolts, Nuts, etc.               | 13                      | 11                                 | 10   | 1                                       | 32                                       |
| 3713                          | Truck and Bus Bodies            | 17                      | 11                                 | 8  | 3                                       | 14                                       |
| 2624                          | Drugs                           | 18                      | 12                                 | 12   | 0                                       | 321                                      |
| 3361                          | Non-ferrous Foundries           | 16                      | 12                                 | 11   | 1                                       | 72                                       |
| 2041                          | Grain Mill Products             | 20                      | 15                                 | 14   | 1                                       | 35                                       |
| 2732                          | Book Printing                   | 19                      | 17                                 | 17   | 0                                       | 337                                      |
| 2515                          | Mattresses and Springs          | 22                      | 19                                 | 17   | 2                                       | 53                                       |
| 3551                          | Food Products Machinery         | 20                      | 19                                 | 18   | 1                                       | 95                                       |
| 2011                          | Meat Packing                    | 39                      | 20                                 | 12   | 8                                       | 34                                       |
| 2042                          | Prepared Animal Feed            | 34                      | 25                                 | 24   | 1                                       | 39                                       |
| 2511                          | Wood Furniture                  | 35                      | 25                                 | 20   | 5                                       | 2  |
| 2512                          | Upholstered Furniture           | 28                      | 28                                 | 23   | 5                                       | 618                                      |
| 2752                          | Lithography                     | 30                      | 29                                 | 28   | 1                                       | 22                                       |
| 3444                          | Sheet Metal Work                | 39                      | 30                                 | 26   | 4                                       | 10                                       |
| 2051                          | Bakery Products                 | 47                      | 33                                 | 30   | 3                                       | 11                                       |
| 2751                          | Commercial Printing             | 43                      | 43                                 | 41   | 2                                       | 45                                       |

\*Arranged according to Minnesota's rank including taxes.

Table 2 shows the effectiveness of tax exemptions in improving Minnesota's rank. The fourth column shows the net change in Minnesota's rank due to a 100 percent exemption (in Minnesota only). It will be observed that in most cases there was no change or relatively little change in cost position. Minnesota's rank improved by more than two positions in only 7 industry groups.



The final column, which shows the percent tax reduction required to improve Minnesota's rank by one position, displays a range from a 2 percent reduction to 1,285 percent with only 16 industry groups requiring less than a 50 percent reduction. Reductions in taxes greater than 100% would require a state subsidy.

The results of this study are consistent with the contention that tax differentials are less consequential than other cost differentials. The author concludes that the:

"analysis indicates that state and local taxes vary substantially from state to state and that Minnesota taxes manufacturers more heavily than do other states. Production costs, however, vary spatially by amounts sufficiently large in most cases so that general tax abatement--especially any small reduction which might be easily accomplished--will not result in major changes in Minnesota's relative cost position."<sup>14</sup>

However he warns that:

"In view of the rather substantial conceptual and statistical difficulties inherent in any attempt to measure the locational impact of taxes conclusions must be viewed as tentative rather than definitive results...The...evidence relates only to manufacturing establishments in selected industries where data were available and is based on the implied assumption that costs and taxes for a newly located or prospective establishment would approximate those of the average existing establishment. Exceptions may arise for a number of reasons."<sup>15</sup>

In discussing the benefits or effectiveness of tax incentives one needs not only to investigate the quantitative effectiveness but also the qualitative effectiveness. In other words, it is necessary to investigate what kind of business is attracted and to what degree new jobs are created within the region.

The degree of competition between firms in an industry varies among the different industries and affects the way in which a firm behaves. Theoretically, under conditions of perfect competition a firm must maximize profits to compete. Under these conditions the firm is a price taker, e.g. the price at which the



product is sold is determined by the market with no individual firm having the ability to influence it. It follows, therefore, that any reduction in costs will induce a change in its output and employment decisions.

Industries which are dominated by a few firms are less affected by external market conditions due to high concentration of power and the ability of an individual firm to influence price. Profit maximization is no longer a necessary condition for survival. In fact, the managerial task of maximizing profits for these large firms may be too great to be feasible. These firms usually experience what is termed the "threshold effect". That is, a change in cost, price, or some other external condition must exceed some minimum amount in a given time period. Otherwise the firm will probably ignore the change since real costs will be encountered in the process of adjustment.

Financial incentives which lower costs will, therefore, tend to have a larger impact on the competitive firm. For others, tax exemptions or reductions may simply be a "windfall profit" without inducing any change in production or employment.

The competitive sector of the economy, which is most likely to be stimulated by tax incentives, provides the less desirable jobs. In general, competitive firms usually offer lower wages and poorer working conditions, provide less stable employment and make it more difficult for labor to organize. On the other hand, the windfalls are accruing to the firms which need them the least.

David Birch concludes in a recent study that most of the new jobs being created are by small independent firms which employ fewer than 20 people.<sup>16</sup> This suggests a failure in the tax policy of North Dakota which, in 1973, eliminated the eligibility of "service" type businesses for exemptions and in 1977



eliminated the eligibility of retail establishments except when associated with a project which is primarily manufacturing, distributing, or processing.

The decision to invest depends not only on cost, but also on the expected return on investment. "Almost anything that a government can do to reduce the uncertainty about sales is more likely to induce business people to go ahead and build or expand a plant than any other kind of public action."<sup>17</sup> Demand is largely unaffected by business tax incentives (reductions in consumer tax liabilities are more likely to have an effect on demand).

If it is true that the benefits of tax incentives are marginal, what are the costs of providing such incentives? One of the major costs has been expenditures on promotional fees for advertising. Fairfax County, Virginia, for example, has a business promotion budget of \$700,000.00 Magazine advertisements cost around 7 million dollars in 1977.

The primary cost is, however, forgone tax revenues:

"Tax relief for business cost cities and states more than promotional fees. In just over a year, New York City has exempted \$461 million in properties from nearly \$44 million in taxes. St. Louis has exempted nearly \$1 billion worth of real estate - equal to half of the cities property value - including a property tax abatement for the First National Bank of St. Louis, estimated to cost the city \$17 million alone. Michigan incentives may cost \$50 million in state revenues and \$30 million in local revenues annually if continued into the 1980's"<sup>18</sup>

The overall cost to local governments, in the case of North Dakota, for the 10 year period covered by the study done by the State Tax Commissioner was estimated to be in excess of \$7 million. It was noted, however, that "because the larger tax exemptions are usually guaranteed to business locating in or near communities with a sizeable existing tax base, the fiscal impact on individual





local political subdivisions in terms of tax dollars lost has not been very substantial."<sup>19</sup>

Proponents of tax incentives argue that: "before a new capital investment is made, usually little tax was being collected on the site anyway. In many cases, developers must pay the pre-abatement tax, however small, and the abatement is limited to capital improvements."<sup>20</sup>

This argument fails to acknowledge the fact that "new businesses may require an in-migration of workers which results in new 'costs' to the community in the form of additional governmental services."<sup>21</sup> Thus the use of tax incentives may result in a "temporary increase in tax burden for existing home owners and businesses."<sup>22</sup>

#### THE EFFECTS OF REGULATION ON INDUSTRY LOCATION

Information on the effects of regulation on industry location is sparse. It is possible, however, to speculate on the subject on a theoretical basis. When inquiring into any potential factor of location decisions, there are certain necessary characteristics which must be identified to determine if the factor is truly a determinant in the decision. It is necessary that the cost incurred by the firm, due to the specific factor, vary regionally, i.e. that a cost differential exists. In order for a factor to have a significant impact on the decision, it is also necessary that the factor represent a significant proportion of the total costs experienced by firms and that the differential significant enough not to be superseded by other cost differentials.

Total business expenditures for pollution abatement and control for 1977 (in 1972 dollars) was \$13.918 billion.<sup>23</sup> Total manufacturing sales for 1977 (in 1972 dollars) was \$285.7 billion.<sup>24</sup> The ratio of pollution abatement and



control expenditures to total manufacturing sales was approximately 0.049 for 1977. This figure provides some indication of the importance of regulation as a cost factor. Like taxation, regulation appears to represent an insignificant proportion of total costs.

It could be objected that these figures do not account for differentials among the different states. However, it is doubtful that any differentials which exist are significant enough to alter the cost structure substantially. First of all, the figure presented for business expenditures on pollution abatement and control includes expenditures necessary to meet both state and federal regulations. Only expenditures related to state regulation are relevant in determining differentials and their impact on location decisions. The exclusion of expenditures related to Federal regulation would lower the expenditure figure, therefore reducing the expenditure to sales ratio. Second, even if the ratio of expenditures to sales in a specific state was double the national figure it would still be insignificant.

Regulation may have an impact on location decisions insofar that it influences the businessman's perception of the business "climate". It may also have a negative effect on internal investment by diverting potential investment funds and reducing productivity. Edward Denison estimates that from 1967 to 1978 1.2 percent of the labor, capital, and land used in nonresidential business had been diverted from production.<sup>25</sup>

Although Montana is a high regulation state, it is also a resource area. Since resource oriented industries usually experience relatively little flexibility in their location decisions, regulation should have very little impact.



## NOTES

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## TECHNIQUES USED BY OTHER STATES IN PROMOTING INDUSTRIAL DEVELOPMENT

Following World War II, state and local governments began to rapidly expand their efforts to promote economic growth through the use of financial inducements to industry. These inducements have usually taken the form of low interest loans or tax concessions.

There are basically five general types of inducement programs, three of which are publicly financed. These are: 1) state industrial finance authorities; 2) local industrial bond financing; and 3) tax concessions. The last two, statewide development credit corporations and local industrial development corporations, are privately financed.

Since tax concessions have already been discussed, this section will deal with the remaining four types of programs. The discussion will include a description of the general characteristics of each type of program and will conclude with a discussion of the general effectiveness of state and local loans in promoting industrial development.

### STATE INDUSTRIAL FINANCE AUTHORITIES

Functions of the SIFA consists of two types: financing of new plants and purchase and improvement of land for industrial purposes through direct loan and loan guarantee programs. Funds used in the direct loan programs are usually obtained from the state's general revenue funds or through the issuing of bonds. The use of bonds has several advantages over using general revenue funds: 1) by using bonds, financing is not limited by shortages of general revenue funds; and 2) funds are not diverted from the general revenue funds so as to choke off the financing of other worthwhile projects.



Although the criticism that industrial development bonds were being used to subsidize borrowing by large firms have been largely removed by limits on the size of bond issues, the programs are still the object of much criticism. The basis of this criticism is that the programs tend to attract small, marginal firms unable to obtain credit from commercial sources. These are "frequently low-wage, labor intensive firms operating in declining industries that are unable to provide a dynamic foundation for expanding the economic base."<sup>1</sup>

Loan guarantee programs are designed to induce private leaders to finance projects they would otherwise reject by insuring repayment of up to 90 percent of the loan and, therefore, reducing the risk to the private lender. An attractive feature of this type of program is that it encourages private financing while actual expenditures of public funds are small.

The Industrial Park Authority established in 1955 by New Hampshire was the first state industrial finance authority. It was authorized to "buy and sell industrial sites, to establish planned industrial parks through improvement of sites by grading, installing streets, sewerage and other appurtenances needed to convert raw land into desirable sites, and to construct industrial plants for sale or lease to private firms."<sup>2</sup>

Due to its semi-rural nature, New Hampshire had found itself with substantial land available for industrial development. However, these prospective sites were often without such facilities and services as water and sewage systems and access roads which manufacturers frequently desire when they want to make a quick move to a new plant. Although planned industrial parks financed by private developers were important in attracting industry in several other states, private development companies had not established and planned parks in



New Hampshire prior to 1955. The New Hampshire state government, therefore, created the Industrial Park Finance Authority to provide prepared industrial sites by furnishing short-term money for real estate improvement and construction of industrial plants, which was to be repaid with interest by manufacturers who bought the sites and buildings.

In 1956 the Pennsylvania Industrial Development Authority was established to relieve communities with serious and persistent unemployment of part of the problem of financing industrial rejuvenation. The main objective of the program was providing additional jobs in chronic labor surplus areas. The PIDA was to participate with community development corporations in financing new plants. It was authorized to make loans out of the general revenue funds to local non-profit development corporations of up to 40 percent of industrial facility costs in return for a second mortgage. The PIDA had 576 loans totaling \$104 million outstanding by the end of 1966.<sup>3</sup>

A more recent program falling under this category is "The Missouri State Treasurer's Industrial Development Time Deposit Program" instituted in 1975. The program is a part of Missouri's policy for the investment of inactive state funds.<sup>4</sup>

The IDTD promotes the availability of bank credit through the deposit of state funds in private banks. Through special loan qualification criteria, the program seeks to promote investment in areas where it might otherwise not occur. Qualification for a loan is dependent on the calculation of a "total desirability factor" (TDF) which is an estimate of the particular impact on the economies of the counties and communities where the project will be located. The variables used in calculating the TDF are:



a) The annual average unemployment rate of the project county.

b) Total manufacturing jobs expected to be directly or indirectly created by the project.

c) The industry economic stability factor, an annual average of the weekly hours worked per production worker in the project industry.

d) The industry economic contribution factor, an annual average of the hourly earnings per production worker in the project industry.

In granting loans the TDF is measured against the present "minimum TDF thresholds" for the particular community and area where the project is to be located. The minimum TDF thresholds are higher for those types of communities, for example rural ones, which traditionally have higher unemployment and lower wage rates. The use of TDF's thresholds prevents uneven geographical distribution of program funds.

The loans are provided for a number of purposes; for working capital, interim construction financing, inventory financing, minor site development, and equipment. The program requires the placement of 100 percent collateral by the bank for deposit of funds. The deposit may be less than \$100,000, the usual minimum state treasurer's deposit, allowing the program flexibility in meeting the short-term loan needs of both small and large manufacturers when expanding or establishing a new facility. The deposit may not exceed 50 percent of the banks total commitment for a qualifying project or \$2,000,000. Banks approved for an industrial development time deposit may receive funds from 30 to 360





days. The deposit may be renewed if the project warrants further support based on an annual review by the state treasurer. The interest cost to the manufacturer is probably lower than that of other financing methods because the deposit cost to the bank is equal to the "prevailing U.S. treasury bill rate coupon equal yield" (which, because of its near liquidity and minimum risk compared to other money market instruments, is usually low).

Over a three year period, March, 1975, to August, 1977, 780 new jobs were created due to expansion of existing plants and 65 due to new plants totaling 845. It was estimated that \$1 of state treasurer's IDTD deposit has produced \$4.19 of total new investment in Missouri. It was also estimated that \$2,104.83 of IDTD deposits was needed to produce one new job.

#### LOCAL INDUSTRIAL BOND FINANCING

State and local governments have made use of industrial development bonds to attract new industry and promote the expansion of existing industry in order to overcome the lack of private funds for high risk ventures and imperfections in capital and labor markets. Because bond interest payments are tax free, they carry a low rate of interest. In addition, properties financed with industrial development bonds are often exempted from property taxes by local communities.

Industrial bond financing consists of the issuing of two types of bonds; general obligation bonds and revenue bonds. The use of municipal bonds to finance industrial projects began in 1936 in Mississippi, employing general obligation bonds secured by the full faith and credit of the issuing government. The community was required to meet unpaid obligations out of the general tax revenues if the firm were to fail or leave the area.



States have subsequently moved away from the use of general obligation bonds because this type of bond can endanger the credit rating of the issuing government. The community may also face a limited ability to borrow for expansion of other important public facilities if general obligation bonds are included in the statutory debt limitations. In addition to these difficulties, if the community also exempts plants financed by general obligation bonds from local property taxes, tax revenues may not keep up with the demand for public services. Presently only 13 states authorize the use of general obligation bonds. In 1966 it was estimated that there were 43 such bond issues totalling \$20 million in ten states.<sup>5</sup>

Revenue bonds, on the other hand, are secured only by the facility financed. Rather than the local governments making the interest and principle payments, they are made by the tenant industry. If the tenant firm defaults, local governments are not required to retire local revenue bonds. In 1966 it was estimated that 94 issues totaling \$485 million were used by at least 31 states to finance industrial development. Presently, 43 states authorize the use of revenue bonds.

#### STATEWIDE DEVELOPMENT CREDIT CORPORATIONS

The Statewide Development Credit Corporation (SDCC) originated in Maine in 1949. The SDCC is chartered by special state legislation, but is organized, financed and managed as private corporations. The charter gives the SDCC broad powers and allows state regulated banks, insurance companies, and other financial institutions to become members.

The SDCC functions as a means of pooling financial resources. Funds are acquired from two sources; the stockholders and the members. Equity capital is



obtained through the sale of stock to private individuals or to nonfinancial institutions and serves as a partial guarantee for loans obtained from members. Members of the SDCC are financial institutions. When a financial institution becomes a member, it agrees to lend a small amount of its own funds to the SDCC on call. A debt to capital ratio is usually maintained which is much higher than those of ordinary financial institutions. This gives the SDCC access to relatively large amounts of borrowed funds. The pooling of funds also spreads the risk among members and permits loans to be made which would not be granted by individual member financial institutions.

There are some drawbacks to this type of development corporation. One of these is that the amount which the corporation can lend depends on the amount of stock which can be sold to raise equity capital. For instance, between the years 1949-1955 seven active corporations had been founded.<sup>6</sup> By 1958 these corporations had sold \$2,694,000 worth of stock and had received pledges totaling \$333,015,000 from 594 members. However, only about one third of the amount pledged had been used due to an insufficient amount of stock being sold.

Selling stock in SDCC's may not always be a simple task. This is because the returns to stockholders, which are indirect in the form of improved business conditions, are uncertain. As one author points out:

"...in the case of corporations operating at the state level contributing enterprises may be fairly certain of indirect returns only if they themselves also operate on a statewide basis. Contributors inspired by the expectations of returns in the form of increases in business would have to come from fewer sources. These benefits will also be shared by other enterprises established in the community when a manufacturer financed by the development corporation may locate, but these enterprises have no incentive to make any contributions, since the location of the new industry within the state is not known in advance."<sup>7</sup>



According to Harold Smith, it has been "virtually impossible for these corporations to get underway in those states that do not have large areas in distress."<sup>8</sup> He also notes, in discussing the Michigan program, that:

"...the financial interests of the state, who must own it, finance it, promote it and operate it, must become vitally interested in the need for depressed-area redevelopment before such a corporation of sufficient strength, if any at all, is likely to be formed. The present Michigan enabling act was written without the blessing of the financial interests of the state."<sup>9</sup>

#### LOCAL INDUSTRIAL DEVELOPMENT CORPORATIONS

The Local Industrial Development Corporation (LIDC) directs its efforts at influencing and aiding firms in their final site selection. The decision of a firm to locate in a community is based on numerous social and economic factors. However, it must also include an analysis of the site and community involved. Local representatives often play a vital role in introducing the firm and aiding in the negotiation of the development of new facilities. Local analysis is also important if state or Federal funds are to be used to encourage industry to move into specific areas.

LIDC's are only one part of an industrial development program. Other programs, such as those previously mentioned, are better organized at county, state, or regional levels. Modern industrial development includes not only financial development but also the development of industrial sites, research parks, vocation training, highway improvement and research on economic and resource development.

Many of the active development corporations have been established as non-profit organizations. Regardless of their form of organization their main function is to stimulate local economic growth. When profits are made they are





generally retained for further operations.

Financing by LIDC's takes various forms; loans or loan guarantees, purchase of existing buildings for lease, construction and/or leasing of industrial buildings. Funds are often used for the purchase and development of sites.

The fund raising of the LIDC is similar to that of the Statewide Development Credit Corporation. They are raised from the sale of stocks or bonds in the corporation and/or by soliciting contributions from the public at large or from a more restricted group of local businessmen. They frequently borrow from existing financial institutions on a mortgage basis to supplement their own funds in order to finance the construction or remodeling of factory buildings.

LIDC's vary in form among the different states and localities. However, there are five characteristics which are common to all. These are:

- 1) They provide financing (sometimes other types of assistance) primarily to manufacturers;
- 2) They are formed for the public purpose of improving employment opportunities in the community;
- 3) They may assist both expanding firms and new industrial firms in the community;
- 4) They are supported by public subscription of funds (either in the form of an investment or donation);
- 5) They are incorporated.

LIDC's have frequently made nonbankable loans to manufacturers. Interest rates are usually similar to the rates charged by conventional financial institutions. However, LIDC's usually accept lower grade collateral than con-



ventional institutions would or none at all. There are few restrictions on loans granted by LIDC's and they are usually granted for a longer period of time.

There are basically three types of firms which may experience difficulties in obtaining long term financing through conventional means. These are:

- 1) Industrial firms which are distressed or expanding rapidly and, therefore, internal sources are insufficient and balance sheet credentials inadequate to attract private financing.

- 2) Small business where the cost of making long term loans is high and the need for equity funds is often unfilled.

- 3) Industrial firms located in rural or depressed areas where the assets of local financial institutions are inadequate to meet financing needs.

#### THE EFFECTIVENESS OF STATE AND LOCAL DEVELOPMENT PROGRAMS

When evaluating the effectiveness of state and local development programs, it is important to remember that they tend to serve more than one purpose. If a program fails to produce positive results in respect to one goal, it does not necessarily mean that the program is not a success. This discussion will be limited to the effectiveness of these programs in respect to: 1) influence of the program on the location choice of the firm; and 2) the promotion of expansion of existing firms.

Numerous surveys have been done which inquire into whether financial inducements are important as a locational factor. Most of the results have been consistent in ranking inducements low on the list of factors.

In a questionnaire study of a small number of states, done by Gerald Sazama,<sup>10</sup> an attempt was made to evaluate the ability of state industrial deve-



development loans to induce new investment. The study was based on the principle that "the rationale for a state loan program is that it brings to that state industrial development which would not otherwise occur."<sup>11</sup> It should be noted that this includes both the expansion of existing plants and the establishment of new ones.

To determine whether or not the loans were "crucial" i.e. whether or not the loans did truly induce new investment, the questionnaire contained seven questions. A firm's loan was classified as crucial if the respondent indicated that, 1) he would not have invested at all, 2) would have invested but in a different state or, 3) would have reduced the size of his investment without a state loan. The portion of the loan which was judged to be crucial was that which was equal to the percent reduction in the size of the investment. The results are presented in Table 1.

TABLE 1

PERCENT OF VALUE OF STATE LOANS WHICH WERE JUDGED TO BE CRUCIAL

|              | Conservative | Probable |
|--------------|--------------|----------|
| Pennsylvania | 33%          | 42%      |
| New York     | 29%          | 45%      |
| Rhode Island | 44%          | 51%      |
| Maine        | 45%          | 53%      |
| Connecticut  | 35%          | 51%      |

Source: Sazama, "State Industrial Development Loans: A General Analysis", Land Economics, May 1970, p. 173.



Sazama notes that:

"...not all non-crucial loans are money down the drain; since they more than likely release private funds for some alternative use. If the alternative use is an instate investment, the income from this investment is in effect induced by the loan program."<sup>12</sup>

Sazama estimated that the probable level of instate investment due to alternative uses of private funds was 80 percent.

In determining the influence of industrial incentives on the firm's investment decision, he identifies three means by which state loans can influence the decision process. "They can increase credit available, lower costs through subsidized interest rates, or exert a psychological impact."<sup>13</sup> Fifty-one percent of the firms surveyed felt they had excellent or good chances of obtaining private long-term credit, 49 percent felt their chances were fair, poor, or bad (all firms surveyed had received loans).

In determining the degree of influence of subsidy interest rates, the results of the study show that 77 percent of the respondents for Pennsylvania indicated that low interest rates had "very much" or "much" influence. Seventy-two percent claimed this in New York while only a small minority made such a claim for the remaining states, which offer loan guarantees but not direct loans as do New York and Pennsylvania. The validity of these results are, however, questionable. Sazama notes:

"...when asked if special loan terms helped overcome higher labor costs, only 18 percent in New York claimed the loan was of "very much" or "much" influence. Secondly, there may be a tendency for businessmen to believe the subsidy is larger than it actually is; not the contrast between the direct loan states and guarantee states..."<sup>14</sup>

These results are also inconsistent with the general opinion of economists. In a 1966 article in the National Tax Journal, Ronald Gold estimates that at a





market rate of interest of 6 percent (a reasonable value for 1966), the cost savings, depending on industry, due to state and government loans under existing programs would be between 0.07 and 0.97 percent of the value of output, with a median of 0.28 percent.<sup>15</sup> In another study, done by Benjamin Bridges,<sup>16</sup> the sizes of cost reductions or savings which would result from low interest loan inducements are estimated for the State of Wisconsin. These estimates are then compared to estimated labor cost differentials. In 30 cases, where labor cost differentials existed in an industry, labor costs in Wisconsin were higher than in neighboring states and in 47 cases, lower. The results showed that reductions of 1, 2, 3, and 4 percentage points in the interest rate paid on gross depreciable and depletable assets would be large enough to overcome Wisconsin's labor cost disadvantage in 3, 8, 11, and 14 cases, respectively.

In interpreting these results it should be remembered that some low interest loans finance both plant and equipment, others only plant. Both are included in depreciable and depletable assets. State loans finance only part of these costs. There are also other cost differentials to account for. Overall the results of Gold's study and Bridges' are consistent with the belief that subsidies do not have a significant impact on investment decisions.

In regard to psychological effects, Sazama's study showed that 32 percent felt state loans, as a reflection of a favorable business climate, had "very much" influence on their decision to invest. Nineteen percent indicated "much" influence.

Although Sazama's evaluation of state industrial loans seems very positive, the study's results in regard to the effectiveness of state loans in attracting new industry from other states is something less than positive.



"Three-fourths of the value and three-fifths of the number of all state loans were given to firms with instate headquarters. Most of the firms with out-of-state headquarters had factories in the state which granted the loan far in advance of their receiving the loan. Even though state loans financed investments for firms which had substantial liberty to choose another state (all loan finance investment was for buildings only 20 percent of which was for on-site expansion) only 8 percent of all respondents believed they would definitely have located in another state."<sup>17</sup>

Another survey done by Charles Rahe,<sup>18</sup> found similar results concerning the effect of Industrial Development Agencies on industrial location. Of 159 respondents who had located in the Denver area during the survey only six firms or 3.8 percent indicated that industrial development assistance was a major influence on location choice.

Overall, these programs seem to have a positive effect in achieving their goals of stimulating investment and aiding industrial firms through other means of assistance, including the provision of information. When judged by their ability to influence location decisions, their effectiveness is minimal.



## NOTES

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## SUMMARY

The issue at hand is the diversification and development of the Montana economy. The motive for pursuing these goals is existing and potential economic instability resulting from a state economy based on non-renewable resources and export industries. This report has examined the related topics of: (1) factors which determine industrial location; (2) the effects of taxation and regulation on industry location; and (3) the techniques employed by other states to promote industrial development.

In examining these topics, some general observations have been made which apply to all. First, in order for a potential locational determinant to be an actual determinant, a cost differential must exist between potential locations with respect to that factor. Second, since a variety of factors are involved in the location decision, the cost differential of a specific factor must outweigh the differentials of other factors in order to be crucial in the decision. Third, the importance of any one factor will vary according to the varying cost structures of the different firms and industries. Finally, the set of factors which are important in the location decision differ according to the level of the decision, i.e. according to whether a general area or a specific site is being determined.

In analyzing Montana's situation regarding the prospects for diversification, it is most important to recognize that Montana is a raw materials area and not a market area. This and the fact that Montana is distant from major market areas has and will continue to be a major force in Montana's economic destiny. However, this is not to cast out all hope of successfully pursuing economic





diversification and development, rather it should be received as a warning against hasty economic policy and expectations of rapid results.

The role of financial incentives in promoting industrial development seems to be a little uncertain and slightly mixed. Tax concessions, for the most part, appear to have little or no effect on industrial location due to the overwhelming importance of the more critical factors such as markets, raw materials, etc. They may, however, play a more vital role at the local level where they are designed to influence the final site selection and, therefore, are involved with a different set of factors. They may also have some impact insofar as they influence the businessman's perception of the business "climate" of the region.

The effectiveness of industrial development loans is hard to evaluate. In terms of attracting industry from other states their success appears to be minimal. However, they have been at least moderately successful at stimulating internal investment.

In pursuing a policy of economic development, the acquisition of funds is always at issue. One potential source, which is constantly being eyed, are the Montana coal severance tax revenues.

The argument for usage of severance tax revenues to promote economic development is a good one. The primary reason is that the revenue acquired from the tax is non-recurring since it is obtained from the taxation of a non-renewable resource. Therefore, it is best that the revenue be used, in part at least, for productive capital investments, i.e. investments in economic development which will produce recurring revenues, rather than for recurring government expenditures.



In a report to the Montana Coal Tax Oversight Committee, Beldon Daniels and Michael Swack warn that:

"The use of non-recurring resource revenues to meet current expenses runs the risk of over heating the economy by removing many political constraints from the spending process. The income of taxpayers will not be needed to cover expenses and voters can be expected to be happy to take a 'free ride'. The use of non-recurring revenues in this way can also cause a migration of people to the state. However, the state will be unable to maintain both its service and tax level. Economic dislocation will result."<sup>1</sup>

Funds should be invested "in the creation of vital, new, young, growing, small enterprises."<sup>2</sup> Using the funds to support decaying large enterprises will result in small or negative benefits and tends to benefit those who don't need it, i.e. the owners and directors of the corporations.



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